

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 July 2003 (03.07.2003)

PCT

(10) International Publication Number
WO 03/055191 A1

(51) International Patent Classification⁷: **H04M 3/533**,
H04Q 7/22

(21) International Application Number: PCT/SE02/02205

(22) International Filing Date:
29 November 2002 (29.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0104246-4 13 December 2001 (13.12.2001) SE

(71) Applicant (for all designated States except US): **TELEFONAKTIEBOLAGET LM ERICSSON (publ)**
[SE/SE]; S-126 25 Stockholm (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **IDRÉN, Björn**
[SE/SE]; Platåvägen 24, 5 tr., S-191 36 Sollentuna (SE).

(74) Agents: **BOESTAD, Kajsa et al.**; Ericsson AB, Patent
Unit Internet Applications, S-164 80 Stockholm (SE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

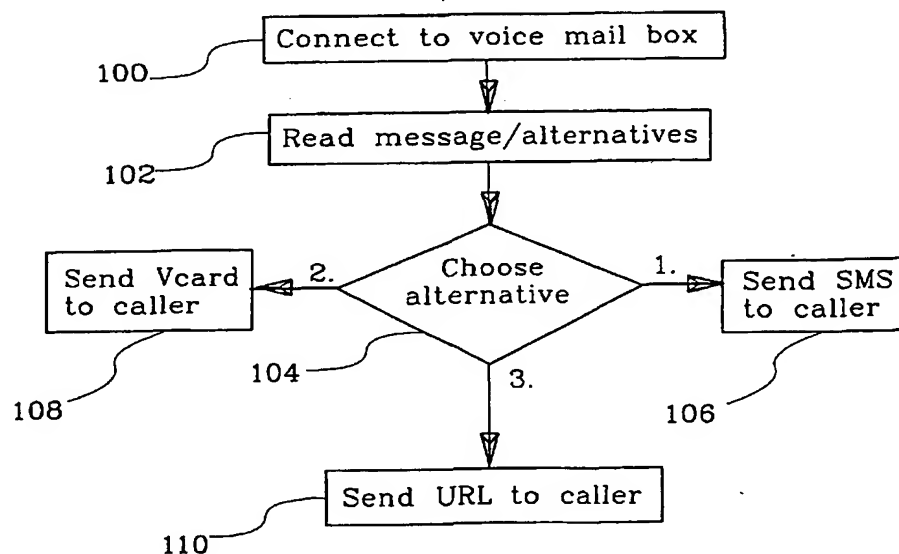
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: VOICE MAIL SERVICE WHERE THE CALLER CAN CHOOSE AMONG DIFFERENT MESSAGE TYPES



(57) Abstract: This invention presents a method to provide a more enhanced voice message system to subscribers of a voice message service, where a calling party can receive more detailed information about the called subscriber and in different kind of formats. This is done by giving the calling party the opportunity to choose between and receive different type of messages. This message type can for example be a SMS message with additional phone numbers. Furthermore it can be a WAP-link to the subscriber's personal WML-page or the vCard of the subscriber. Also EMS or MMS messages can be sent, including video presentations or maps showing driving directions or other relevant information the subscriber wants to provide.

WO 03/055191 A1

METHOD AND ARRANGEMENT IN MESSAGE SERVICE SYSTEM**TECHNICAL FIELD OF THE INVENTION**

The present invention relates in general to telecommunications systems and methods for message service systems, and specifically to providing a more enhanced voice message service to subscribers of the voice message service, where a calling subscriber can receive more detailed information about the called subscriber and in different kind of formats.

10

DESCRIPTION OF RELATED ART

In current telecommunications systems, it is common for users to have a voice mail services associated with their telephone subscription. The voice mail services typically provide for the user to record a personal greeting or to select a standard greeting provided by the system. The user has the option of playing back messages left on the system, saving these messages or forwarding copies of these messages to other voice mailboxes.

Known from the patent US6215857 there is a method for a calling subscriber to place a call directly to a voice mailbox associated with a called subscriber without ringing said called subscriber, by entering some sort of activating code. With this method, the calling subscriber can immediately choose to leave a message in the voice mailbox.

European Patent application EP783219A2 shows a voice mail system that responds to a call in accordance with the number of the calling party. When the calling party is routed to the voice mail system, the call line identity, CLI, is identified by the voice mail system which responds to the

calling party with a pre-programmed response. This response may be one of a voice message, an email message, a facsimile and a SMS message in the form of character string. This system provides a pre-determined response to calling party
5 in accordance with the calling party's call line identity and as programmed into the voice mail system by the user.

SUMMARY OF THE INVENTION

The present invention addresses mainly a problem of providing
10 information from voice mail systems to a calling subscriber, wherein the user of the voice mail system, i.e. B-party, wishes to provide more information than the normal greeting message which is played to the calling subscriber.

The object of the present invention is thus to alleviate the
15 problem above by providing a feasible method of receiving information in different kind of formats.

In more detail, this is done by giving the calling subscriber the opportunity to receive SMS messages with additional phone numbers, receive a WAP-link or get a vCard sent to him.

20 An important technical advantage of the present invention is that the calling party can receive more information from the B-party than the pre-recorded message.

Another advantage of the present invention is the ability to provide a method for the calling party to choose between
25 different message formats and different depths of information.

DESCRIPTION OF THE DRAWINGS

Figure 1 shows a schematic overview of a telecommunications system of the present invention;

Figure 2 illustrates a flowchart describing one embodiment of the invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to Figure 1 there is shown a schematic diagram of a telecommunication system. Furthermore the logical connections between the nodes involved in the present invention are disclosed. The shown nodes involved in the present invention are a voice mail system (VMS) 18 that handles the subscribers voice mail service, a message center 16, a mobile switching center (MSC) 12, a public switched telecommunications network (PSTN) 21 and an Internet 20.

The voice mail system 18 is connected to the MSC 12 and also to the message center 16. Furthermore the MSC 12 is connected to the PSTN 21 and the Internet 20 through gateways. This means that incoming calls can be transported or originated either from the Internet or the PSTN. From this follows that a calling party can use different kind of connections, for example a fixed-line telephone, an IP-telephone connected to the Internet or a cellular phone.

The message center 16 can handle all kinds of message services, including Short Message Service (SMS), Enhanced Messaging Service (EMS) and Multimedia Messaging Service (MMS). Therefor this message center 16 can be implemented either as an SMS-Center (SMSC) or a Multimedia Messaging

Center (MMC). Eitherway the message center is capable of sending messages to calling parties being connected to the voice mail system.

A call from calling party 11 is directed to the PSTN 21 when
5 ~~the call is made. The PSTN 21 then routes the call to the~~
MSC 12 for a mobile subscriber who has a voice mail service, for example B-party 22. The MSC 12 typically routes the call to the mobile subscriber though a base station not shown.

In routing the call to the B-party 22, the MSC 12 typically
10 interrogates over an SS7 signalling line to the HLR 14. The HLR 14 is the home location register, which is a register storing profile information for B-party 22. The HLR 14 also stores information as the selected services available to the B-party 22 of the wireless telecommunications network. The
15 HLR 14 for example will also store information as to whether or not the B-party 22 has a voice mail service.

In the event that the B-party 22 cannot be contacted by the MSC 12 and the MSC 12 has been advised by the HLR 14 that there is a voice mail service provided for the B-party 22,
20 then the MSC 12 sets up a new call which is routed to the voice mail system 18. At this point, the MSC 12 is also capable of transferring the CLI of the calling party to the voice mail system 18.

The purpose of the voice mail system 18 is then to prompt
25 the calling party 11 with a message pre-recorded by the B-party 22.

The voice mail system 18 in the present invention further includes each subscriber's profile, including settings for his voice mail service, for example pre-recorded message and
30 different response messages that he wants to provide.

The voice mail system 18 also comprises means for generating and sending messages via the message center, sending vCards, sending URLs, and means for playback of pre-recorded messages. An alternative implementation to save memory space 5 in voice mail system 18 can be that the messages that is to be sent are instead stored in the message center 16, and the voice mail system 18 only initiates the message center 16 to send out the message by signalling what message to send to whom.

- 10 Vcard is an electronic business card containing vital directory information such as name, addresses, telephone numbers, email addresses and Internet URLs. A vCard can be sent via a number of media, for example telephone networks, and wireless methods such as Bluetooth, IrDA and WAP.
- 15 An URL is a location on Internet where for example a WML-page is located. WML is the file type that can be handled by a WAP enabled terminal.

The terminals intended for the present invention can be any terminal, not only SMS-, EMS-, MMS- or WAP-enabled mobile 20 terminals. By the possibility of choosing another number where to send for example an SMS or URL, fixed-line analog telephones can be used for the method in the present invention. This means that both the calling party and the B-party can be using any kind of terminal in the present 25 invention.

Referring to Figure 2 there is shown a flow chart of the steps involved in the process of the present invention for providing more detailed information from B-party 22.

During the method, a call is attempted to B-party 22, but 30 since he is not available a new call is set up and routed to his voice mail service. The first step 100 involves the

calling party 11 being connected to the voice mail system 18. This step can also include transmitting of the calling party's CLI and also determining if the calling party's 11 terminal supports WAP and vCards. All kind of settings, 5 parameters or capabilities can be investigated in this step.

After this has been performed the voice mail system 18 playbacks the pre-recorded message or instructions in step 102. This can be done in several different ways; one way is to have a pre-recorded message from B-party 22 being played, 10 and then the voice mail system 18 announces the available choices for the calling party. Another way is to have the B-party 22 to pre-record both message and instructions. A third way is to have the voice mail system 18 to handle everything, for example welcoming calling party 11 to B-party 22's voice 15 mail service, and then tell what choices the calling party 11 has. Another alternative in step 102 is that the voice mail system sends the menu of choices via some kind of message, for example a SMS specifying the alternatives.

In step 104 the calling party 11 makes his/hers choice, 20 whether he/she wants to receive a message with more detailed information, a Vcard sent to his/hers terminal, an URL sent to his/hers terminal or any other alternatives supported by the system.

One choice is to have a message sent to the calling party's 25 terminal. This is done in step 106, which also can involve the calling party 11 to type in another number to where he wants the message to be sent, for example if his terminal does not support the selected message type, or he wants his colleague to have a copy.

30 The type of message provided by step 106 could for example be a text SMS including additional information about B-party 22.

It can also be an EMS including a map pointing out where B-party 22 lives or works. Another embodiment of step 106 can be sending out an MMS message containing a video presentation of B-party 22.

- 5 ~~By using this option, the calling party 11 can choose to~~
receive a regular text message with some information provided by the B-party 22, which for example can be his secondary phone number or a text line saying that he is on vacation. By also letting the calling party 11 to enter a number to where
10 the text message is to be sent, the calling party 11 can do this using a fixed line phone, and sending the message to his cellular phone. Furthermore this option provides the opportunity to get maps, driving directions, video presentations, or other multimedia files.
- 15 The calling party 11 also has the choice of having a vCard sent to his terminal. This is done in step 108, where the calling party 11 also can choose to have the vCard sent to an additional or different address/terminal, for example if his terminal does not support vCard, or he wants a colleague to
20 have a copy.

This choice gives the calling party the chance to receive the B-party's full electronic business card, and store that in his cellular phone or PDA. Also here the calling party can enter another number to where the vCard is to be sent.

- 25 Yet another choice is to have an URL sent to the calling party's terminal. This is done in step 110.

This choice lets the calling party to access the B-party's personal WAP-enabled homepage where additional information can be stored. This choice can automatically be removed from
30 the menu if the calling party's phone is discovered to not be

WAP-enabled. Or the calling party can as in the other options enter a number to where he wants the URL to be sent.

These above mentioned choices gives the calling party several options to receive the information depth he wishes at the moment, everything from a regular text message with the B-party's phone number to a multimedia message including a video clip or the B-party announcing something, or an music clip, or another kind of multimedia content.

The invention is not limited to the above described embodiments, but can changed and modified without departing from the invention; for example changes in the environment can cause changes to the above-described structure. The voice mail system can for example be incorporated in another kind of communication system, and the owner of the voice mail service can be located in a fixed telephone network.

CLAIMS

1. A method for providing a calling party (11), to B-party's (22) voice mail service in a wireless telecommunications system, more detailed information about the B-party (22), the

5 ~~method comprising the steps of:~~ -----

a) a calling party connecting (100) to a voice mail system (18);

b) the voice mail system (18) playing (102) pre-recorded message and/or instructions;

10 **characterised** by the further steps of:

c) a calling party choosing (104) among two or more message types;

d) the voice mail system (18) responding (106;108;110) to calling party with a message type according to choice made in
15 c).

2. A method in accordance with claim 1, **characterised** in that step a) further includes transmitting the calling party's Calling Line Identification to the voice mail system (18).

3. A method in accordance with any of the claims 1-2,
20 **characterised** in that step a) further includes determining whether the calling party's (11) terminal is WAP-enabled or not.

4. A method in accordance with any of the claims 1-3, **characterised** in that the response to the calling party (11)
25 is comprised of a vCard.

5. A method in accordance with any of the claims 1-3, **characterised** in that the response to the calling party (11) is comprised of an URL.

6. The method in accordance with any of the claims 1-3, ~~5 **characterised** in that the response is comprised of a SMS~~ message.

7. The method in accordance with any of the claims 1-3, **characterised** in that the message is comprised of an EMS message.

10 8. The method in accordance with any of the claims 1-3, **characterised** in that the message is comprised of a MMS message.

9. The method in accordance with any of the claims 1-8, **characterised** in that it further includes the calling party
15 (11) entering the number to where he wishes to have the response sent.

10. The method in accordance with any of the claims 1-9, **characterised** in that the choice is made by entering numbers on the keypad of the calling party's terminal.

20 11. The method in accordance with any of the claims 1-9, **characterised** in that the choice is made by voice.

12. A voice mail system (18) for providing more detailed information about a B-party (22) when calling party (11) for some reason are unable to reach the B-party (22) and instead
25 are being connected to the voice mail system (18), wherein said system comprises:

interface for connection to a wireless telecommunications system;

interface for connection to a message center;

means for playing pre-recorded messages;

characterised in that said system further comprises:

~~means for letting calling party (11) choose among two or more~~
5 message types; and

means for sending chosen message type to calling party (11).

13. A voice mail system in accordance with claim 12,
characterised in that the system further comprises means to
handle the incoming Calling Line Identification and sending
10 chosen message type to that number.

14. A voice mail system in accordance with any of the claims
12-13, **characterised** in that the system further comprises
means for detecting if the calling party's terminal is WAP-
enabled.

15 15. A voice mail system in accordance with any of the claims
12-14, **characterised** in that the system further comprises
means for sending SMS messages.

16. A voice mail system in accordance with any of the claims
12-15, **characterised** in that the system further comprises
20 means for sending EMS messages.

17. A voice mail system in accordance with any of the claims
12-16, **characterised** in that the system further comprises
means for sending MMS messages.

18. A voice mail system in accordance with any of the claims
25 12-17, **characterised** in that the system further comprises
means for sending messages comprised of a vCard.

19. A voice mail system in accordance with any of the claims 12-18, **characterised** in that the system further comprises means for sending messages comprised of an URL.

20. A voice mail system in accordance of any of the claims 5 12-19, **characterised** in that the system further comprises means for prompting the calling party (11) to enter an alternative number to where he wants the response to be sent.

21. A voice mail system in accordance of any of the claims 12-20, **characterised** in that the system instead of means for 10 generating a message, comprises means for signalling the message center to send the selected message type.

22. A wireless telecommunications system for providing a calling party (11), to a B-party's (22) voice mail service, more detailed information about the B-party (22), the system 15 comprising;

means for connecting the calling party (18) to a voice mail system (18);

characterised in that it further includes a connected voice mail system of any of the claims 12-21.

20 23. A system in accordance with claim 22, **characterised** in that it further comprises means for transmitting the calling party's (11) Calling Line Identification to the voice mail system.

1/2

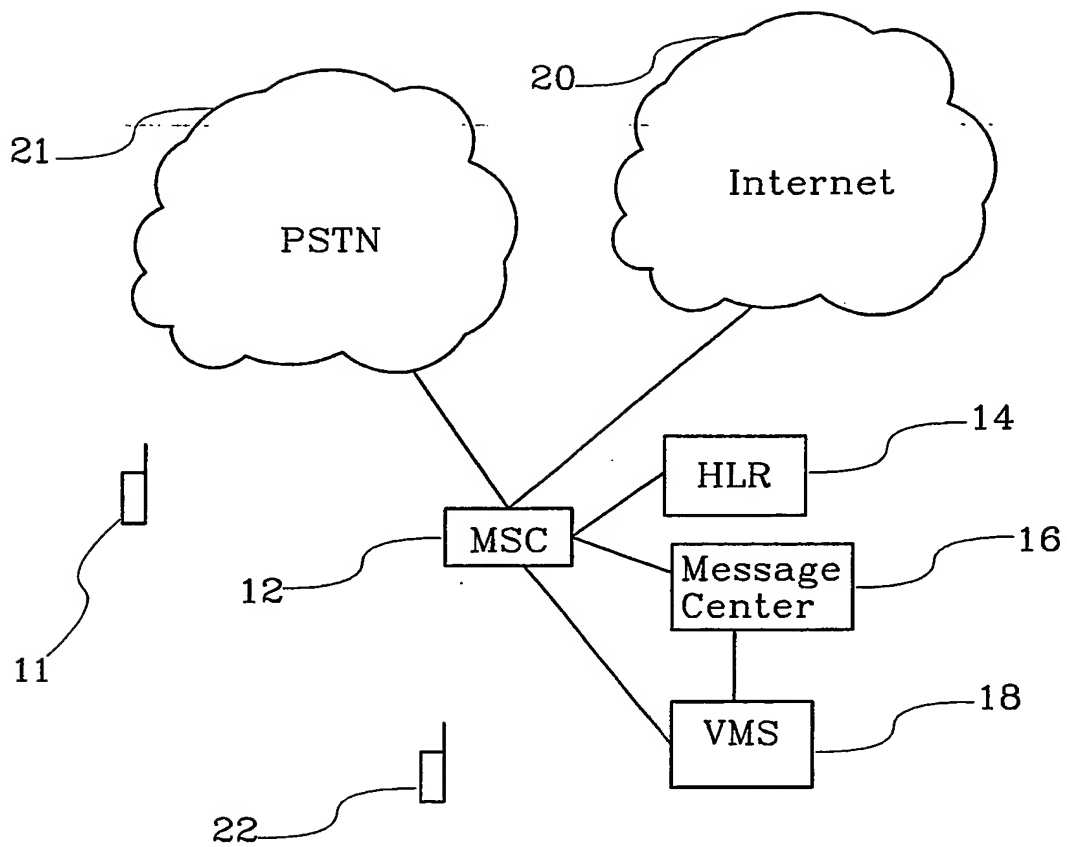


Fig.1

2/2

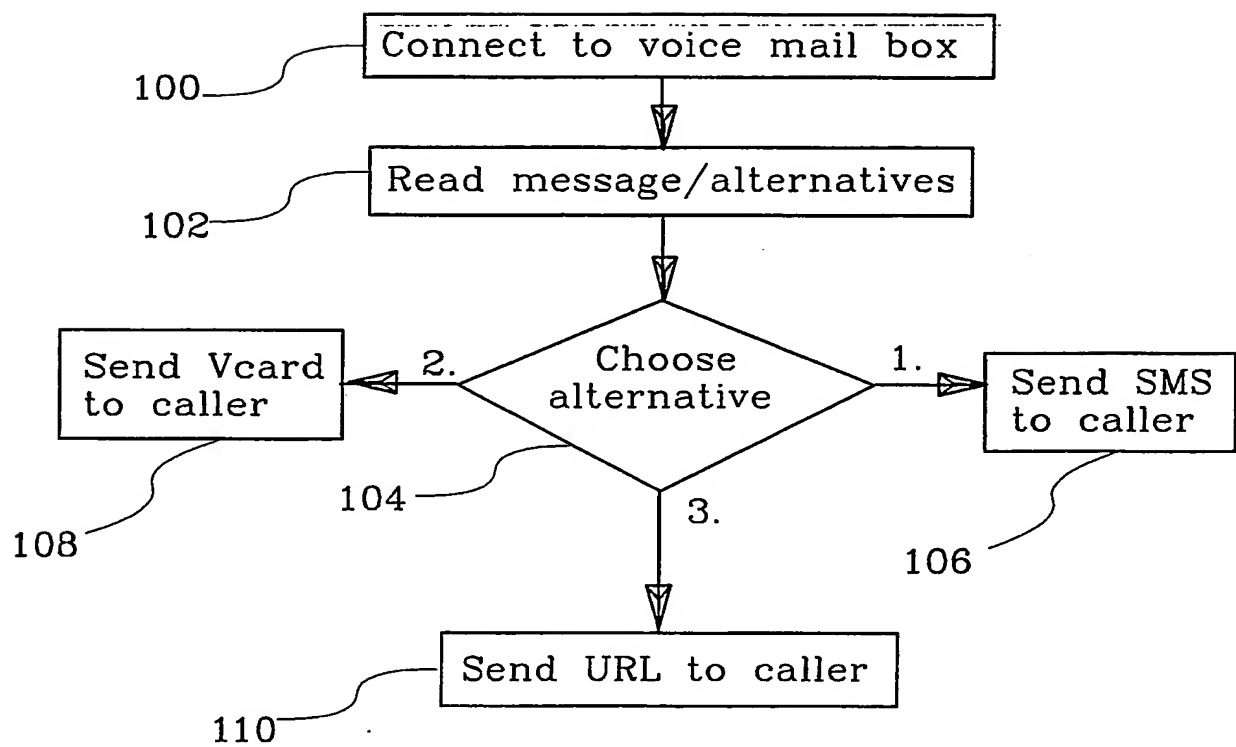


Fig.2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 02/02205

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04M 3/533, H04Q 7/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04M, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0567135 A1 (NEC CORPORATION), 27 October 1993 (27.10.93), column 3, line 21 - line 25, claim 7, abstract	1,10-12,22
Y	--	2,13,23
X	GB 2209257 A (HASHIMOTO CORPORATION), 4 May 1989 (04.05.89), claim 1, abstract	1,10-12,22
A	EP 0783219 A2 (NOKIA MOBILE PHONES LTD.), 9 July 1997 (09.07.97), abstract, cited in document	1-23

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

27 December 2002

Date of mailing of the international search report

10-01-2003

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Lisbeth Andersson/MN

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 02/02205

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 9953699 A2 (SONERA OY), 21 October 1999 (21.10.99), claim 4, abstract --	2,13,23
A	US 2001040953-A1-(RIEKKI), 15 November 2001 (15.11.01), abstract --	1-23
E,A	US 6333973 B1 (SMITH ET AL), 25 December 2001 (25.12.01), abstract -- -----	1-23

INTERNATIONAL SEARCH REPORT

Information on patent family members

01/12/02

International application No.

PCT/SE 02/02205

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0567135 A1	27/10/93	AU 660076 B AU 3550093 A CA 2092352 A,C DE 69322898 D,T JP 6046124 A KR 9704228 B US 5475739 A	08/06/95 28/10/93 24/10/93 01/07/99 18/02/94 26/03/97 12/12/95
GB 2209257 A	04/05/89	GB 8819899 D HK 22995 A JP 1050656 A JP 1735417 C JP 4023462 B SG 3695 G US 4958366 A	00/00/00 03/03/95 27/02/89 17/02/93 22/04/92 16/06/95 18/09/90
EP 0783219 A2	09/07/97	FI 101661 B FI 960075 A,V US 6301338 B US 2001028709 A	00/00/00 09/07/97 09/10/01 11/10/01
WO 9953699 A2	21/10/99	AU 2839099 A EP 1072159 A FI 980718 A JP 2002511719 T	01/11/99 31/01/01 01/10/99 16/04/02
US 2001040953 A1	15/11/01	AU 1984300 A FI 982725 A WO 0036850 A	03/07/00 17/06/00 22/06/00
US 6333973 B1	25/12/01	WO 9848549 A	29/10/98